DEPARTMENT OF ENERGY
HOISTING & RIGGING TECHNICAL ADVISORY COMMITTEE

MEETING MINUTES

Germantown, MD

May 15, 2003

The Chairperson, Pat Finn, Department of Energy (DOE-HQ, EH-53) called the meeting of the DOE Hoisting and Rigging Technical Advisory committee (HRTAC) to order. Mr. Finn welcomed attendees and introductions were made. Mr. Finn explained that the meeting was being satellite teleconferenced to other DOE locations; Savannah River Operations Office, Oakland Area Office, INEEL, Kansas City Area Office, Chicago Operations Office and the Hanford Site.

The following technical presentations were made, many of which included proposed changes to the DOE Hoisting and Rigging Technical Standard, DOE-STD-1090-2001. Recommended or approved text changes are noted.

1. Mr. Frank Tooper, EH-73, and Mr. David Berkey presented a draft EH report entitled "*A Review of Hoisting and Rigging Safety Performance at the Department of Energy: 2001-2002*." The draft report was based on an evaluation of the Occurrence Reporting and Processing System (ORPS) database for this time period and compared the results with a similar study completed in 1996 that reviewed hoisting and rigging performance for the period from October 1993 through March 1996. The draft report concluded that the frequency of hoisting and rigging occurrences during the two different periods of study were roughly equal whereas there were fewer adverse consequences in the most recent period. While it appeared that both the frequency and severity of occurrences involving cranes and forklifts decreased, the frequency of occurrences involving other equipment actually increased (whereas the severity of these occurrences also decreased). There were a number of verbal comments offered to the report's authors by the Committee and Mr. Finn solicited further written comments with a deadline of May 23, 2003. These comments would be consolidated by Mr. Finn and submitted to EH's Office of Performance Assessment and Analysis by May 30, 2003. The final report is scheduled for completion by the end of June 2003.

2. Mr. Graham Brent, the Executive Director of the National Commission for the Certification of Crane Operators (NCCCO), briefed the committee on the latest status of this voluntary national program. By January 2003, this program has administered written tests to nearly 20,000 candidates and practical examinations

to over 7,500 candidates. The NCCCO has also started work on additional certification programs for overhead and tower cranes to supplement the existing program, which at this time applies only to mobile cranes. Within DOE, sites whose construction is managed by Bechtel (INEEL, Savannah River, and Hanford) have imposed NCCCO operator certification requirements for subcontracted construction services. Further information on the NCCCO program available at http://www.nccco.org/.

3. Messrs. Jeff Shackelford and Carter Shuffler of the Defense Nuclear Facilities Safety Board (DNFSB) made a presentation on the results of their onsite evaluation of hoisting and rigging at the Savannah River Site (SRS) in March 2003. This was the first in a series of reviews that will be followed by another at Pantex in late May 2003. They were generally complimentary of SRS's program, but did offer several areas for possible improvement. Of these, the greatest emphasis was placed upon the need to maintain an effective interface with the manufacturers of installed equipment to ensure that defects identified by the manufacturer are promptly corrected.

4. With the assistance of Mr. Dick Black, the DOE Standards Executive, and Mr. Rick Serbu, DOE's Technical Standards Program Manager, Mr. Finn led a discussion on possible format and content changes to the DOE Hoisting and Rigging Standard, DOE-STD-1090. Mr. Serbu led the discussion with a presentation on Public Law 104-113, *The National Technology Transfer and Advancement Act of 1995.* There was subsequent discussion concerning ASME copyright issues as well as limited funding within EH to support ongoing maintenance of the Standard. In recognition of the Standard's level of use and usefulness to the DOE Field Offices and their contractors, it was decided that this Standard should be maintained in its current form with revisions made every 3 years through the formal DOE concurrence process.

5. Mr. Lynn Holt (INEEL) proposed changes to Chapter 11 concerning labeling and inspection requirements for slings. These proposed changes reflect changes made by Addendum C to ASME B30.9. After Mr. Holt's presentation, a vote was taken and his recommended changes passed. The specific changes are noted below:

a) New section numbered 11.3.2.1.e.7 will be added to read "*Missing or illegible sling identification.*"

b) Sections 11.3.5.3.m and 11.3.6.d should be changed as follows: "*Nylon and polyester slings shall not be used on contact with objects or at temperatures in excess of 194 degree F (90 degree C), or below -40 degree F (-40 degree C). Polypropylene slings shall not be used in contact with objects or at temperatures in excess of 150 degree F (66 degree C), or below -40 degree F (-40 degree C). The sling manufacturer should be consulted for the temperature range of slings made from other synthetic yarns."*

6. Mr. Mike Berry (Savannah River) made a proposal to delete references to Federal Specification RR-C-271D within Appendix A as this was causing difficulties in procurement of otherwise satisfactory rigging accessories. This proposal was accepted and will result in the deletion of Sections 14.1.a.1, 15.1.a.1 and 15.1.a.2 of Appendix A.

7. Mr. Mike Viola (PPPL) proposed and had approved a change to the inspection documentation requirements in Chapter 16 for Miscellaneous Lifting Devices. Specifically, the sentence *"An external coded mark on the lifting device indicating the completion of the required inspection and the due date for the next inspection is also acceptable documentation"* will be added at the end of existing section 16.2.4.c.

8. Mr. Dana Morgan (Hanford) made a presentation concerning the incorporation of requirements concerning portable gantry cranes (A-frames) into the DOE Hoisting & Rigging standard. There was considerable discussion within the Committee as to where these requirements should appear within the Standard. It was decided that these devices should be addressed within Chapter 16 "Miscellaneous Lifting Devices" with appropriate references to Chapter 8 "Hoists." Mr. Morgan agreed to draft a specific proposal on this basis for a future letter ballot.

9. Pat Finn (EH-53) made a proposal concerning the reconciliation of OSHA and ANSI/ASME requirements for overhead crane inspections with those currently found in Chapter 7 of the DOE Standard. The proposal was approved and will result in a number of changes to Chapter 7. These revised text of affected sections should read as follows:

7.2.4 Daily Preoperational Check

a. Operators or other designated personnel shall visually inspect ~~items such as~~ the following items each day or prior to first use if the hoist has not been in regular service (records are not required):

1. *All functional operating mechanisms for maladjustment interfering with proper operation.*

2. *Deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems.*

3. *Hooks for cracks, deformation, latch engagement (if provided), and damage from chemicals (see Chapter 13, "Load Hooks," for additional hook requirements).*

4. *Hoist rope for significant wear, kinking, crushing, birdcaging, corrosion, or broken strands or wires.*

5. *Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations.*

6. *Primary hoist upper-limit device for proper operation.*

b. Operators or other designated personnel shall examine deficiencies and determine whether the equipment should be removed from service or if a more detailed inspection is required

7.2.5 Monthly Rope, Chain, and Hook Inspection

a. On a monthly basis, the operator or other designated person shall thoroughly inspect the following items for damage, wear, or other deficiencies that might reduce capacity or adversely affect the safety of the crane:

1. *This shall be accomplished by lowering the hook block to its lowest position and examining for any condition that could result in an appreciable loss of strength.*

2. *Hoist rope, including end connections, for significant wear, kinking, crushing, birdcaging, ~~and~~ corrosion, broken strands or wires..*

3. *Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations.*

4. *Hooks for cracks, deformation, damage from chemicals, and evidence of heat damage. The hook attachment and securing means should also be checked. (See Chapter 13, "Load Hooks," for additional hook requirements)*

5. *Signed and dated inspection records shall be kept on file and shall be readily available.*

b. Before the crane is returned to service, deficiencies that could reduce its capacity or adversely affect its safety shall be corrected.

7.2.6 Frequent Inspection

a. Operators or other designated personnel shall visually inspect the crane at the following intervals (records are not required):

1. *Normal service—monthly.*

2. *Heavy service—weekly to monthly.*

3. Severe service—daily to weekly.

b. In addition to the requirements of Section 7.2.4, "Daily Preoperational Check," these inspections shall include the following:

1. Hoist braking system for proper operation.

2. ~~Hoist rope~~ Rope or chain reeving for compliance with hoist manufacturer's recommendations.

3. ~~Observations during operation~~.

3. Operating mechanisms for proper operations, proper adjustment, unusual sounds or excessive wear.

c. Operators or other designated personnel shall examine deficiencies and determine whether the equipment should be removed from service or if a more detailed inspection is required.

7.2.7 Periodic Inspection

a. A qualified inspector shall perform a complete inspection at the following intervals:

1. Normal service—yearly.

2. Heavy service— Semiannually to annually, dependant upon the nature of the crane's critical components and the degree of their exposure to wear or deterioration.

3. Severe service—Monthly to quarterly.

7.2.7.1.j. should now read *"Electrical apparatus for signs of pitting or any deterioration of controllers, master switches, contacts, limit switches, and push-button stations (not limited to these items).*

7.2.7.1.m. should now read *"Nondestructive examination of hooks, welds, bearings, or other suspect load-bearing parts when required by the inspector."*

7.2.7.1.o. should now read *"All function, instruction, caution, and warning labels or plates for legibility.*

10. Mr. Lynn Holt, INEEL, made a proposed change concerning training requirements for crane maintenance personnel. As section 6.2.13 currently reads, it has the effect of requiring a practical examination for crane maintenance personnel. In the view of the

Committee this is not necessary, nor is it required by applicable ASME standards. This concern can be addressed by deleting the last sentence of Section 6.2.13.a , "*See general and crane specific qualification requirements in Section 6.2 "Qualification.""*

11. After a brief period of open discussion, the meeting was adjourned.